

Appl. No. 09/881,473
Atty. Docket No. 6798MD
Amended March 24, 2004
Reply to Office Action of September 25, 2003

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1. (*Currently Amended*) A macroscopically three-dimensional cleaning sheet having a first outward surface and a second outward surface, wherein at least one of the outward surfaces has a macroscopic three dimensional texture, said macroscopic three dimensional texture being defined by peaks and valleys such that said textured outward surface has an Average Peak to Peak Distance of at least about 1 mm, an Average Height Differential of at least about 1 mm and a Surface Topography Index from about 0.01 to about 10 and wherein said cleaning sheet comprises an additive applied at a low effective level to provide improved adhesion of soil to the sheet.

Claim 2-3 (*Cancelled*)

²
Claim ~~4~~. (*Currently Amended*) The cleaning sheet of Claim ~~[[3]]~~ ¹ wherein said Average Height Differential is from about 1 mm to about 3 mm.

³
Claim ~~6~~. (*Previously Presented*) The cleaning sheet of Claim 1 wherein said Average Peak to Peak Distance is at least about 2 mm.

⁴
Claim ~~6~~. (*Previously Presented*) The cleaning sheet of Claim ~~6~~ ³ wherein said Average Peak to Peak Distance is at least about 3 mm.

⁵
Claim ~~7~~. (*Previously Presented*) The cleaning sheet of Claim 1 wherein said Average Peak to Peak Distance is from about 1 to about 20 mm.

⁶
Claim ~~8~~. (*Previously Presented*) The cleaning sheet of Claim ~~7~~ ⁵ wherein said Average Peak to Peak Distance is from about 4 to about 12 mm.

⁸
Claim ~~9~~. (*Previously Presented*) The cleaning sheet of Claim 1 wherein said Surface Topography Index is from about 0.1 to about 5.

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⁹
Claim ~~10~~⁸. (*Previously Presented*) The cleaning sheet of Claim ~~9~~ wherein said Surface Topography Index is from about 0.2 to about 3.

¹⁰
Claim ~~11~~⁹. (*Previously Presented*) The cleaning sheet of Claim ~~10~~ wherein said Surface Topography Index is from about 0.3 to about 2.

¹¹
Claim ~~12~~¹¹. (*Currently Amended*) The cleaning sheet of claim 1 wherein said textured outward surface has an Average Peak to Peak Distance of from about 3 mm to about 16 mm, a Surface Topography Index of from about 0.1 to about 5, and an Average Height Differential of from about [[0.5]] 1 mm to about [[6]] 3 mm.

¹²
Claim ~~13~~¹¹. (*Original*) The cleaning sheet of Claim ~~12~~ wherein said cleaning sheet is a hydroentangled cleaning sheet.

¹⁵
Claim ~~14~~¹⁵. (*Currently Amended*) The cleaning sheet of claim 1 wherein said textured outward surface has an Average Peak to Peak Distance of from about 4 mm to about 12 mm, a Surface Topography Index of from about 0.2 to about 3, and an Average Height Differential of from about 1 mm to about 3 mm.

¹⁶
Claim ~~15~~¹⁵. (*Original*) The cleaning sheet of Claim ~~14~~ wherein said cleaning sheet is a hydroentangled cleaning sheet.

¹⁹
Claim ~~16~~¹⁹. (*Original*) The cleaning sheet of Claim 1 wherein said cleaning sheet is a hydroentangled cleaning sheet.

Claim 17. (*Cancelled*)

²⁰
Claim ~~18~~²⁰. (*Previously Presented*) The cleaning sheet of Claim 1 wherein said additive is included at an add-on level of at least about 0.01%, by weight of the sheet.

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²¹
Claim ~~19~~²⁰ (*Currently Amended*) The cleaning sheet of Claim ~~18~~¹⁹ wherein said additive is included at an add-on level of at least about 1%, by weight of the sheet.

²²
Claim ~~20~~²¹ (*Currently Amended*) The cleaning sheet of Claim ~~19~~²⁰ wherein said additive is included at an add-on level of from about 1 to about 15%, by weight of the sheet.

²³
Claim ~~21~~²² (*Currently Amended*) The cleaning sheet of Claim ~~20~~²¹ wherein said additive is included at an add-on level of from about 3 to about 10%, by weight of the sheet.

²⁴
Claim ~~22~~²³ (*Previously Presented*) The cleaning sheet of Claim 1 wherein the additive is a mixture of mineral oil and a wax.

³¹
Claim ~~23~~³¹ (*Currently Amended*) A macroscopically three-dimensional cleaning sheet having a first outward surface and a second outward surface, wherein at least one of the outward surfaces has a macroscopic three dimensional texture, said macroscopic three dimensional texture being defined by peaks and valleys such that said textured outward surface has (i) an Average Peak to Peak Distance of from about 1 mm to about 20 mm; (ii) a Surface Topography Index from about 0.2 to about 3; and (iii) an Average Height Differential of at least about [(0.5)] 1 mm and wherein said cleaning sheet comprises an additive applied at a low effective level to provide improved adhesion of soil to the sheet.

³²
Claim ~~24~~³¹ (*Previously Presented*) The cleaning sheet of Claim ~~23~~³¹ wherein said Average Peak to Peak Distance is from about 4 to about 12.

³³
Claim ~~25~~³¹ (*Previously Presented*) The cleaning sheet of Claim ~~23~~³¹ wherein said Surface Topography Index is from about 0.3 to about 2.

Claim 26. (*Cancelled*)

³⁷
Claim ~~27~~³⁷ (*Currently Amended*) A macroscopically three-dimensional, hydroentangled, nonwoven cleaning sheet for removing dust from a surface, said cleaning sheet comprising at least two fibrous layers; wherein said fibrous layers are hydroentangled

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with each other; wherein said cleaning sheet has a first outward surface and a second outward surface, wherein at least one of said outward surfaces has a macroscopic three dimensional texture, said macroscopic three dimensional texture being defined by peaks and valleys such that said textured outward surface has an Average Peak to Peak Distance of from about 3 to about 16 mm, a Surface Topography Index from about 0.1 to about 5, and an Average Height Differential of ~~from about 0.5 to about 6 mm~~ at least about 1 mm and wherein said cleaning sheet comprises an additive selected from the group consisting of surfactant, wax, oil, and mixtures thereof; wherein said additive is included on said cleaning sheet at a level of from about 0.1% to about 25% by weight of said cleaning sheet.

³⁸ Claim ~~28~~³⁷. (Original) The cleaning sheet of Claim ~~28~~³⁷ wherein said cleaning sheet further comprises a scrim material; wherein said fibrous layers are hydroentangled with said scrim material.

³⁹ Claim ~~29~~³⁸. (Original) The cleaning sheet of Claim ~~28~~³⁸ wherein said scrim material is made of a material selected from the group consisting of polyethylene, polypropylene, copolymers of polyethylene, copolymers of polypropylene, poly(butylene terephthalate), polyethylene terephthalate, nylon, and mixtures thereof.

⁴⁰ Claim ~~30~~³⁹. (Original) The cleaning sheet of Claim ~~29~~³⁹ wherein said scrim material is made of polypropylene.

Claim 31. (Cancelled)

⁴³ Claim ~~32~~³⁷. (Previously Presented) The cleaning sheet of Claim ~~31~~³⁷ wherein said additive is selected from the group consisting of wax, oil, and mixtures thereof.

⁴⁴ Claim ~~33~~⁴³. (Original) The cleaning sheet of Claim ~~32~~⁴³ wherein said additive is a mixture of wax and oil.

⁴⁵ Claim ~~34~~⁴⁴. (Original) The cleaning sheet of Claim ~~33~~⁴⁴ wherein said mixture of wax and oil contains a ratio of said wax to said oil of from about 3:7 to about 99:1.

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⁴⁶
Claim ³⁷35. (Original) The cleaning sheet of Claim ³⁷37 wherein said fibrous layers comprise fibers made of a material selected from the group consisting of natural cellulosic fibers, polyolefins, polyesters, polyamides, synthetic cellulosic fibers, cotton fibers, and mixtures thereof.

⁴⁷
Claim ⁴⁶36. (Original) The cleaning sheet of Claim ⁴⁶35 wherein said fibers are made of polyester.

⁵²
Claim ⁵²37. (Currently Amended) A macroscopically three-dimensional, hydroentangled, nonwoven cleaning sheet for removing dust from a surface, said cleaning sheet comprising at least two fibrous layers and a scrim material; wherein said fibrous layers are hydroentangled with said scrim material; wherein said cleaning sheet has a first outward surface and a second outward surface, wherein at least one of said outward surfaces a macroscopic three dimensional texture, said macroscopic three dimensional texture being defined by peaks and valleys such that said textured outward surface has an Average Peak to Peak Distance of from about 3 to about 16 mm, a Surface Topography Index from about 0.1 to about 5, and an Average Height Differential of from about [[0.5]] 1 to about [[6]] 3 mm and wherein said cleaning sheet comprises an additive selected from the group consisting of surfactant, wax, oil, and mixtures thereof, wherein said additive is included on said cleaning sheet at a level of from about 4% to about 8% by weight of said cleaning sheet.

Claim 38. (Cancelled)

⁵³
Claim ⁵²39. (Previously Presented) The cleaning sheet of Claim ⁵²37 wherein said additive is selected from the group consisting of wax, oil, and mixtures thereof.

⁵⁴
Claim ⁵²40. (Original) The cleaning sheet of Claim ⁵²37 wherein said fibrous layers comprise fibers made of a material selected from the group consisting of natural cellulosic fibers, polyolefins, polyesters, polyamides, synthetic cellulosic fibers, cotton fibers, and mixtures thereof.

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59
Claim 41. (Original) The cleaning sheet of Claim 40 wherein said fibers are made of polyester.

56
Claim 42. (Original) The cleaning sheet of Claim 37 wherein said scrim material is made of a material selected from the group consisting of polyethylene, polypropylene, copolymers of polyethylene, copolymers of polypropylene, poly(butylene terephthalate), polyethylene terephthalate, nylon, and mixtures thereof.

57
Claim 43. (Original) The cleaning sheet of Claim 42 wherein said scrim material is made of polypropylene.

25
Claim 44. (Original) A cleaning implement comprising:

- a. a handle; and
- b. a removable cleaning sheet, wherein said cleaning sheet is the cleaning sheet of Claim 1.

13
Claim 45. (Original) A cleaning implement comprising:

- a. a handle; and
- b. a removable cleaning sheet, wherein said cleaning sheet is the cleaning sheet of Claim 12.

17
Claim 46. (Original) A cleaning implement comprising:

- a. a handle; and
- b. a removable cleaning sheet, wherein said cleaning sheet is the cleaning sheet of Claim 14.

34
Claim 47. (Original) A cleaning implement comprising:

- a. a handle; and
- b. a removable cleaning sheet, wherein said cleaning sheet is the cleaning sheet of Claim 25.

48
Claim 48. (Original) A cleaning implement comprising:

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- a. a handle; and
- b. a removable cleaning sheet, wherein said cleaning sheet is the cleaning sheet of Claim ~~27~~ ³¹

⁵⁸
Claim ~~28~~ ⁵⁸ (Original) A cleaning implement comprising:

- a. a handle; and
- b. a removable cleaning sheet, wherein said cleaning sheet is the cleaning sheet of Claim ~~37~~ ⁵²

²⁶
Claim ~~30~~ ²⁶ (Original) A method for removing dust from a surface, said method comprising the step of contacting said surface with the cleaning sheet of Claim 1.

¹⁴
Claim ~~31~~ ¹⁴ (Original) A method for removing dust from a surface, said method comprising the step of contacting said surface with the cleaning sheet of Claim ~~12~~ ¹¹

¹⁸
Claim ~~32~~ ¹⁸ (Original) A method for removing dust from a surface, said method comprising the step of contacting said surface with the cleaning sheet of Claim ~~14~~ ¹⁵

³⁵
Claim ~~33~~ ³⁵ (Original) A method for removing dust from a surface, said method comprising the step of contacting said surface with the cleaning sheet of Claim ~~25~~ ³¹

⁴⁹
Claim ~~34~~ ⁴⁹ (Original) A method for removing dust from a surface, said method comprising the step of contacting said surface with the cleaning sheet of Claim ~~27~~ ²⁷

⁵⁹
Claim ~~35~~ ⁵⁹ (Original) A method for removing dust from a surface, said method comprising the step of contacting said surface with the cleaning sheet of Claim ~~37~~ ⁵²

²⁷
Claim ~~36~~ ²⁷ (Previously Presented) The cleaning sheet of claim 1 wherein said additive is a microcrystalline wax.

³⁶
Claim ~~37~~ ³⁶ (Previously Presented) The cleaning sheet of claim ~~25~~ ³¹ wherein said additive is a microcrystalline wax.

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⁴¹
Claim ~~58~~ (Currently Amended) ³⁷ The cleaning sheet of claim ~~27~~ wherein said additive is a microcrystalline wax applied on at least one of said outward surfaces at a level of from about 0.1% to about 25% by weight of said cleaning sheet.

⁴²
Claim ~~59~~ (Previously Presented) ⁴¹ The cleaning sheet of claim ~~58~~ wherein said microcrystalline is applied to said textured outward surface.

⁵²
Claim 60. (Currently Amended) The cleaning sheet of claim ~~37~~ wherein said additive is a microcrystalline wax applied to at least one of said outward surfaces at a level of from about 0.1% to about 25% by weight of said cleaning sheet.

Claim 61. (Currently Amended) The cleaning sheet of claim 60 wherein said microcrystalline wax is applied to said textured outward surface.

⁵²
Claim 62. (Previously Presented) The cleaning sheet of claim ~~37~~ wherein said scrim material is shrinkable such that said three-dimensional texture is formed on at least one of said outward surfaces when said hydroentangled cleaning sheet with said shrinkable scrim material is heated.

⁷
Claim ~~63~~ (New) ⁵ The cleaning sheet of claim ~~7~~ wherein said Average Height Differential is between about 1 mm and about 3 mm.

²⁸
Claim ~~64~~ (New) The cleaning sheet of claim 1 wherein said Average Height Differential is at least about 1.5 mm.

²⁹
Claim ~~65~~ (New) ²⁸ The cleaning sheet of Claim ~~64~~ wherein said additive is included at an add-on level of at least about 0.01%, by weight of the sheet.

³⁰
Claim ~~66~~ (New) ²⁹ The cleaning sheet of Claim ~~65~~ wherein said additive is selected from the group consisting of wax, oil, and mixtures thereof.

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37
Claim ⁵⁰67. (New) The cleaning sheet of claim 27 wherein said Average Height Differential is between about 1 mm and about 3 mm.

37
Claim ⁵¹68. (New) The cleaning sheet of claim 27 wherein said Average Height Differential is at least about 1.5 mm.

52
Claim ⁶³69. (New) The cleaning sheet of claim 37 wherein said Average Height Differential is at least about 1.5 mm.

64
Claim ⁷⁰70. (New) A macroscopically three-dimensional cleaning sheet having a first outward surface and a second outward surface, wherein at least one of the outward surfaces has a macroscopic three dimensional pattern, said macroscopic three dimensional pattern being defined by peaks and valleys such that said patterned outward surface has an Average Height Differential of at least about 1 mm.

64
Claim ⁶⁵71. (New) The cleaning sheet of Claim 70 wherein said Average Height Differential is at least about 1.5 mm.

64
Claim ⁶⁶72. (New) The cleaning sheet of Claim 70 wherein said Average Height Differential is from about 1 mm to about 3 mm.

64
Claim ⁶⁷73. (New) The cleaning sheet of Claim 70 wherein said patterned outward surface has an a Surface Topography Index from about 0.01 to about 10.

67
Claim ⁶⁸74. (New) The cleaning sheet of Claim 73 wherein said Surface Topography Index is from about 0.1 to about 5.

68
Claim ⁶⁹75. (New) The cleaning sheet of Claim 74 wherein said Surface Topography Index is from about 0.2 to about 3.

69
Claim ⁷⁰76. (New) The cleaning sheet of Claim 75 wherein said Surface Topography Index is from about 0.3 to about 2.

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⁷⁰
Claim ~~77~~⁷⁰ (New) The cleaning sheet of Claim ~~78~~⁶⁴ wherein said cleaning sheet further comprises an additive to provide improved adhesion of soil to the sheet, wherein said additive is included at an add-on level of at least about 0.01%, by weight of the sheet.

⁷¹
Claim ~~78~~⁷¹ (New) The cleaning sheet of Claim ~~77~~⁷⁰ wherein said additive is included at an add-on level of from about 1 to about 15%, by weight of the sheet.

⁷²
Claim ~~79~~⁷² (New) The cleaning sheet of Claim ~~77~~⁷⁰ wherein said cleaning sheet comprises at least two fibrous layers and a scrim material; wherein said fibrous layers are hydroentangled with said scrim material.

⁷³
Claim ~~80~~⁷³ (New) The cleaning sheet of Claim ~~79~~⁷² wherein said scrim material is made of a material selected from the group consisting of polyethylene, polypropylene, copolymers of polyethylene, copolymers of polypropylene, poly(butylene terephthalate), polyethylene terephthalate, nylon, and mixtures thereof.

⁷⁴
Claim ~~81~~⁷⁴ (New) The cleaning sheet of Claim ~~77~~⁷⁰ wherein said additive is selected from the group consisting of wax, oil, and mixtures thereof.

⁷⁵
Claim ~~82~~⁷⁵ (New) A cleaning implement comprising:
a. a handle pivotably connected to a support head; and
b. a disposable cleaning sheet removably attachable to said support head ,
wherein said cleaning sheet is the cleaning sheet of Claim ~~70~~⁷⁰.

⁷⁶
Claim ~~83~~⁷⁶ (New) A method for removing dust from a surface, said method comprising the step of contacting said surface with the cleaning sheet of Claim ~~70~~⁶⁴.